

NEW RECORDS FROM TURKEY

A. GÜNER* & B. YILDIZ*

ABSTRACT. A list of 163 new records from Anatolia is given.

The following plants, collected mostly by the authors and the late Doç. Dr. H. Peşmen in various Turkish provinces are believed new for the grid squares as assessed by reference to the *Flora of Turkey and the East Aegean Islands* Vol. 1-7 and recent publications containing new floristic records. In addition to those from the *Flora* the following abbreviations have been used in the text: AG., A. Güner; BY., B. Yıldız; Mah., Mahallesi; MK., M. Koyuncu. Specimens on which records are based are kept in Ankara (Hacettepe, HUB), and in many cases in Edinburgh (E). The numbers in square brackets refer to volume and page number in the *Flora of Turkey*.

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SELAGINELLACEAE [1: 36]

Selaginella helvetica (L.) Link

A8 Rize: Çamlıhemşin, Tar De., deep granite valley, 900-1300 m, 29 vi 1981, AG. 3908. This species has been cited from Turkey for the first time by R. Anşin in his Doçent thesis from A7 Trabzon: Maçka, around Kuklakaya, 1840 m, R. Anşin 590.

CUPRESSACEAE

Juniperus sabina L. [1: 82]

A8 Rize: Çamlıhemşin, around Yukarı Kavrun Y. granite rocks, 2300 m, 10 viii 1980, AG. & B. S. Erol (AG. 3010); *ibid.*, Hisarcik to Siraköy, subalpine scrub, 1900-2000 m, 9 viii 1981, AG. & BY. (AG. 4113). [Seeds 3]

RANUNCULACEAE

Delphinium aff. *buschianum* Grossh. [1: 111]

A8 Rize: Çamlıhemşin, Yukarı Kavrun Y., Pornag to Arçovit, alpine steppe, granite slopes, 2200-3000 m, 10 viii 1980, AG. 3000. [Indumentum of stem, petioles and leaf blades is different from that given in the description. Det.: P. H. Davis]

Ranunculus asiaticus L. [1: 183]

C7 Urfa: Ceylanpınar, Gökçayır (Telhamut), steppe, 470 m, 19 iv 1980, AG. 2272. [First yellow-flowered specimen collected from Turkey]

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R. ficaria L. subsp. **bulbifera** (Marsden-Jones) Lawalrée [I: 194]

A8 Rize: Çamlıhemşin, around Aşağı Vice Mah., 250–800 m, 24 ii 1981, *AG. & B. S. Erol* (AG. 3128).

R. kochii Ledeb. [I: 194]

C7 Adıyaman: Yazibaşı (Azikhan) Köyü to Körtigerri, steppe, 1200–1800 m, 27 v 1981, *AG. & BY.* (AG. 3628).

BERBERIDACEAE

Epimedium pinnatum Fischer subsp. **colchicum** (Boiss.) Busch [I: 211]

A8 Rize: Çamlıhemşin, around Aşağı Vice Mah., 300–500 m, 25 ii 1981, *AG.* 3159; *ibid.*, *AG. & B. S. Erol* (AG. 3174).

PAPAVERACEAE

Corydalis caucasica DC. [I: 239]

A8 Rize: Çamlıhemşin, around Aşağı Vice Mah., 250–800 m, 24 ii 1981, *AG. & B. S. Erol* (AG. 3144). [Flowers smaller (c 20 mm) than usual]

C. integra Barbey & Major [I: 240]

C9 Siirt: Erüh to Şirnak, around Segirik Karakolu, open *Quercus* scrub, 1150 m, 7 iii 1978, *AG.* 1611.

CRUCIFERAE/BRASSICACEAE

Hirschfeldia incana (L.) Lag.-Foss. [I: 267]

C7 Urfa: Ceylanpınar, Gökçayır (Telhamut), steppe, 470 m, 19 iv 1980, *AG.* 2272.

Raphanus raphanistrum L. subsp. **raphanistrum** [I: 270]

A8 Rize: Ardeşen to Çamlıhemşin, wet meadows, 100–250 m, 22 v 1981, *AG.* 3567.

R. raphanistrum L. subsp. **maritimus** (Smith) Thell. [I: 270]

A8 Rize: Ardeşen to Işikli, sea shores, 28 vi 1980, *AG.* 2717.

Conringia perfoliata (Meyer) Busch [I: 278]

A3 Sakarya: around Geyve, 27 v 1970, *A. Pamukçuoğlu.* [Det.: H. Peşmen]

Coluteocarpus vesicaria (L.) Holmboe subsp. **vesicaria** [I: 308]

C10 Hakkâri: Yüksekova, Akpınar Köyü, Kızıltaş, 2200 m, 28 iv 1978, *AG.* 1667.

Aethionema froedinii Rech. fil. [I–317]

C7 Urfa: Akçakale, Harran, Bellitaş (Telliçime) Köyü, steppe, 450–550 m, 17 iv 1980, *AG.* 2237.

A. arabicum (L.) Andr. ex DC. [I–318]

A3 Sakarya: around Geyve, 27 v 1970, *A. Pamukçuoğlu.* [Det.: H. Peşmen]

A. speciosum Boiss. & Huet [I–322]

C10 Hakkâri: Yüksekova, Esendere, steppe, 1750–1850 m, 31 v 1978, *AG.* 1731. [Det.: H. Peşmen]

Thlaspi sintenisii (Hausskn. ex) Bornm. [I–337]

A8 Rize: Çamlıhemşin, Yukarı Kavrun Y., Kaçkar Da., basalt scree, 3000 m, *AG.* 2865.

Cochlearia sempervivum Boiss. & Bal. [I–345]

C4 İçel: near Mut, 15 vi 1970, *A. Pamukçuoğlu.* [Det.: H. Peşmen]

Fibigia suffruticosa (Vent.) Sweet [I–358]

C10 Hakkâri: Yüksekova, Esendere, steppe, North slopes, 1750–1850 m, 31 v 1978, *AG.* 1736

Alyssum minutum [Schlecht. ex] DC. [I–377]

A8 Rize: Çamlıhemşin, Şenyuva to Ülkü, wet meadows, 450 m, 28 iv 1981, *AG.* 3504A.

Draba brunifolia Stev. subsp. **armeniaca** Coope & Cullen [I–415]

B9 Bitlis: Tatvan, Pelli Da., alpine steppe, 2600 m, 14 v 1972, *H. Peşmen* 2724. [Det.: H. Peşmen]

D. huetii Boiss. [I–420]

A8 Rize: Çamlıhemşin, Şenyuva to Ülkü, wet meadows, c. 450 m, 28 iv 1981, *AG.* 3503A.

Arabis caucasica Willd. subsp. **caucasica** [I–426]

C10 Hakkâri: Yüksekova, Yeşiltaş Köyü, alpine steppe, 1500–2850 m, 18 vi 1975, *AG.* 1315; *ibid.*, Akpınar Kö., Kızıltaş, 2200 m, 28 iv 1978, *AG.* 1665.

Turritis glabra L. [I: 429]

A8 Rize: Çamlıhemşin, Çat to Elevit, *Picea orientalis* forest, 1200–1500 m, 24 vi 1980, AG. 2446.

Cardamine uliginosa Bieb. [I: 442]

C10 Hakkâri: Yeşekova, Yeşiltaş, Köyü, Sat Gölbaşı, by stream, 1500–2850 m, 18 vi 1975, AG. 1321.

Aubrieta olympica Boiss. [I: 445]

A3 Sakarya: around Geyve, 27 v 1970, *A. Pamukçuoğlu*. [Fruit immature]

A. parviflora Boiss. [I: 447]

C9 Siirt: Eruh, Paris (Üzümlük) Köyü, around Sel, steep limestone rocks, 1100 m, 27 iii 1978, AG. 1623; ibid, Aydinlar Köyü, around Ibrahim Hakki Kalesi, steep limestone rocks, 1350 m, 12 vi 1980, AG. & MK. (AG. 2299). [Fruit narrower than usual]

Anchonium elichrysifolium (DC.) Boiss. subsp. **persicum** (DC.) Cullen & Coode [I: 463]

C10 Hakkâri: Yüksekova, Yeşiltaş Köyü, Sat Gölbaşı, 1500–2850 m, 18 vi 1975, AG. 1314.

Sterigmostemum sulphureum (Banks & Sol.) Bornm. subsp. **sulphureum** [I: 465]

C7 Urfa: Akçakale, Altuntepe Köyü, along Syrian frontier, 400 m, 17 iv 1980, AG. 2231.

Erysimum passgalense Boiss. [I: 469]

C10 Hakkâri: 6 km from Şemdinli to Yüksekova, *Quercus* forest, 1800 m, 4 vi 1978, AG. 1768.

E. repandum L. [I: 477]

A8 Rize: Çamlıhemşin, Şenyuva to Ülkü, wet meadows, c. 450 m, 28 iv 1981, AG. 3499.

CISTACEAE

Helianthemum salicifolium (L.) Miller [I: 516]

C7 Urfa: Akçakale, Harran, Bellitaş (Telliçime) Köyü, 450–550 m, 17 iv 1980, AG. 2242.

VIOLACEAE

Viola odorata L. [I: 525]

A8 Rize: Ardeşen, Işikli to Zenimoz, 30–500 m, 27 ii 1981, AG. 3192.

V. suavis Bieb. [I: 526]

A8 Rize: Ardeşen to Çamlıhemşin, 100–250 m, 26 ii 1981, AG. 3182.

V. occulta Lehm. [I: 529]

C10 Hakkâri: Yüksekova, Esendere, along Iranian frontier, 1700–1800 m, 19 iv 1979, AG. 1889.

POLYGALACEAE

Polygala pruinosa Boiss. subsp. **pruinosa** [I: 535]

C9 Siirt: Aydinlar (Tillo) Köyü, around Ibrahim Hakki Kalesi, steep limestone rocks, 1350 m, 12 vi 1980, AG. & MK. (AG. 2309).

P. vulgaris L. [I: 538]

A8 Rize: Çamlıhemşin, around Amlakit Y., *Picea orientalis* clearings, 1950–2100 m, 25 vi 1981, AG. 3864.

PORTULACACEAE

Montia rivularis Gmelin sensu lato [II: 14]

A8 Rize: Çamlıhemşin, Şenyuva to Ülkü, wet meadows, c. 450 m, 28 iv 1981, AG. 3509.

CARYOPHYLLACEAE

Arenaria leptoclados (Reichb.) Guss. [II: 28]

C7 Urfa: Ceylanpinar, Gökçayir (Telhamut), steppe, 470 m, 19 iv 1980, AG. 2258.

Stellaria media (L.) Vill. subsp. **media** [II: 69]

A8 Rize: Çamlıhemşin, around Aşağı Vice Mah., 250–800 m, 24 ii 1981, AG. & B. S. Erol (AG. 3126).

S. nemorum L. subsp. *glochidisperma* Murbeck [II: 70]

A8 Rize: Çayeli, Çataldere Köyü, around Çürükbel, forest clearings, 1370–1450 m, 5 vii 1979, *AG. & M. Doğan* (AG. 1985).

Cerastium anomalum Waldst. & Kit. [II: 75]

A8 Rize: Çamlıhemşin, Pokut Y. to Çoverni, *Picea orientalis* and *Fagus orientalis* forest, 1600–2000 m, 24 vi 1981, *AG. 3824*.

C. pumilum Curtis [II: 83]

A8 Rize: Çayeli, Çataldere Köyü, around Çürükbel, forest clearings, 1370–1450 m, 5 vii 1979, *AG. & M. Doğan* (AG. 1997).

Bufonia calyculata Boiss. & Bal. [II: 89]

B6 Malatya: Doğanşehir, Dedeyazi Köyü, Keşiş Da., alpine steppe, 1800–2000 m, 28 vii 1971, *H. Peşmen* 2490, [Det.: H. Peşmen]

Dianthus eretmopetalus Stapf [II: 110]

C3 Antalya: Akseki, above Velikuyusu, 7 vi 1970, *A. Pamukçuoğlu*. [Det.: H. Peşmen]

D. carmelitarum (Reut. ex) Boiss. [II: 128]

A4 Kastamonu: Küre, near Maden ocağı, 14 vii 1976, *O. Terzioğlu*. [Det.: H. Peşmen]

Petrorhagia aff. *velutina* (Guss.) Ball. & Heywood [II: 135]

A8 Rize: Gündoğdu, roadsides, 10 m, 4 vii 1979, *AG. & M. Doğan* (AG. 1928). [Calyx shorter than 10 mm]

POLYGONACEAE

Rheum ribes L. [II: 268]

C10 Hakkâri: Yüksekova, Esendere, steppe, 1750–1850 m, 31 v 1978, *AG. 1748*.

Oxyria digyna (L.) Hill [II: 269]

A8 Rize: Çamlıhemşin, Yukarı Kavrın Y., above Mezevit, screes, 3000 m, 9 viii 1980, *AG. & B. S. Erol* (AG. 2885).

CHENOPODIACEAE

Chenopodium murale L. [II: 302]

A8 Rize: Çamlıhemşin, around Aşağı Vice Mah., 300–550 m, 16 viii 1980, *AG. 3044*.

AMARANTHACEAE

Amaranthus viridis L. [II: 341]

A8 Rize: Çamlıhemşin, around Aşağı Vice Mah., 300–550 m, 16 viii 1980, *AG. 3030*.

LINACEAE

Linum peyronii Post [II: 447]

C9 Mardin: Kiziltepe, Şenyurt to Tozan, along Syrian frontier, 500 m, 17 iv 1979, *AG. 1863*.

SIMAROUBACEAE

Ailanthus altissima (Miller) Swingle [II: 508]

A8 Rize: around Pazar, 5 m, 11 viii 1981, *AG. 4133*. [naturalized]

RHAMNACEAE

Rhamnus cornifolius Boiss. & Hoh. [II: 530]

C10 Hakkâri: Yüksekova, Yeşiltaş Köyü, Sat Gölbaşı, 1500–2850 m, 18 vi 1975, *AG. 1340*. [Det.: H. Peşmen]

LEGUMINOSAE/FABACEAE

Robinia pseudoacacia L. [III: 41]

A8 Rize: Ardeşen, Firtina Köprüsü to Bakoz, 70 m, 28 vi 1980, *AG*. 2657. [naturalized]

Astragalus viciifolius DC. [III: 81]

A8 Rize: Çamlıhemşin, Çat to Elevit, 1200–1500 m, 24 vi 1980, *AG*. 2450.

A. tauricolus Boiss. [III: 89]

C4 Konya [İçel]: Mut, 15 vi 1970, *A. Pamukçuoğlu*. [Det.: H. Peşmen]

A. aleppicus Boiss. [III: 102]

C8 Mardin: Kiziltepe, Şenyurt to Tozan, along Syrian Frontier, steppe, 500 m, 17 iv 1979, *AG*. 1880.

A. cf. chamaephaca Freyn [III: 107]

B6 Kahramanmaraş: Göksün, Cennetderesi, mixed forest, 1800 m, 20 vi 1981, *BY*. 3010. [Det.: D. F. Chamberlain] [Stipules longer than in description]

A. cf. albifolius Freyn & Sint. [III: 145]

A8 Erzurum: Tuzla to Tortum, Bar Tepesi, 9 viii 1981, *N. Demirkuş* 1209. [Det.: D. F. Chamberlain] [Standard longer than in description]

A. oleifolius DC. [III: 169]

B6 Malatya: Doğanşehir, Dedeyazi Köyü, Keşiş Dağı, steppe, 1800–2000 m, 28 vii 1971, *H. Peşmen* 2614. [Det.: H. Peşmen]

A. russelii Banks & Sol. [III: 176]

C7 Urfa: Akçakale, Harran, Bellitaş (Tellicime) Köyü, steppe, 450–550 m, 17 iv 1980, *AG*. 2255.

A. falcatus Lam. [III: 194]

A8 Rize: Çamlıhemşin, Ortayayla to Hisarcik, meadows, 1600–2000 m, 6 vii 1981, *AG*. 3998.

A. albicalycinus Hub.-Mor. & Matthews [III: 252]

C3 Antalya: near Akseki, 13 vi 1970, *A. Pamukçuoğlu*.

Vicia hirsuta (L.) S. F. Gray [III: 301]

A8 Rize: Çamlıhemşin, meadows, 250–400 m, 27 iv 1981, *AG*. 3482.

V. lunata (Boiss. & Bal.) Boiss. var. **lunata** [III: 302]

C3 Antalya: around Side, 5 vi 1970, *A. Pamukçuoğlu*.

V. michauxii Sprengel var. **stenophylla** Boiss. [III: 311]

C7 Urfa: Ceylanpınar, Gökçayır (Telhamut), steppe, 470 m, 19 iv 1980, *AG*. 2266.

V. sativa L. subsp. **sativa** [III: 319]

A8 Rize: Ardeşen to Çamlıhemşin, wet meadows, 100–250 m, 22 v 1981, *AG*. 3569.

V. sativa L. subsp. **nigra** (L.) Ehrh. var. **segetalis** (Thuill.) Ser. ex DC. [III: 320]

C7 Urfa: Ceylanpınar, Gökçayır (Telhamut), steppe, 470 m, 19 iv 1980, *AG*. 2260.

V. narbonensis L. var. **narbonensis** [III: 322]

C9 Siirt: 16 km from Pervari to Şirvan, meadow, 1600 m, 14 vi 1980, *AG*. & *MK*. (*AG*. 2393).

Trifolium glomeratum L. [III: 406]

A8 Rize: Ardeşen to Pazar, sandy sea shores, 3 m, 22 vi 1981, *AG*. 3801.

T. resupinatum L. var. **resupinatum** [III: 412]

A8 Rize: Çamlıhemşin, meadow, 250–450 m, 27 iv 1981, *AG*. 3478.

T. clusii Godr. & Gren. [III: 413]

A8 Rize: Ardeşen to Çamlıhemşin, meadows, 100–250 m, 22 v 1981, *AG*. 3554.

T. pratense L. var. **sativum** Schreb. [III: 416]

A8 Rize: Çamlıhemşin, Çat to Elevit, wet meadows, 1200–1500 m, 24 vi 1980, *AG*. 2465. [Flowers white]

Melilotus alba Desr. [III: 451]

A8 Rize: Pazar to Findikli, roadsides, c. 3 m, 11 viii 1981, *AG*. 4131.

Onobrychis galegifolius Boiss. [III: 587]

C9 Siirt: Pervari to Şirvan, around Kilis Köyü, 800 m, 14 vi 1980, *AG*. & *MK*. (*AG*. 2435).

ROSACEAE

Rubus tereticaulis P. J. Mueller [IV: 36]

A8 Rize: Ardeşen, Işıkli to Yaylacılar fidanlığı, mixed scrub, 300–700 m, 28 vi 1980, *AG*. 2701; Çamlıhemşin, around Aşağı Vice Mah., mixed scrub, 300–500 m, 16 viii 1980, *AG*. 3048.

R. hirtus Waldst. & Kit. sensu stricto [IV: 37]

A8 Rize: Ardeşen Firtına Köprüsü to Bakoz, 10–200 m, 28 vi 1980, *AG*. 2691; Çamlıhemşin, above Aşağı Vice Mah., 500–650 m, 26 vi 1980, *AG*. 2563.

Potentilla argentea L. [IV: 49]

A8 Rize: Çamlıhemşin, Çat to Hisarcık, deep metamorphic valley, 1200–1600 m, 8 viii 1981, *AG*. & *BY*. (*AG*. 4067).

Sibbaldia parviflora Willd. var. *minor* Boiss. [IV: 70]

A8 Rize: Çamlıhemşin, above Amlakit Y., alpine steppe, 2200 m, 19 vii 1974, *AG*. 1030. [Det.: H. Peşmen]

Geum urbanum L. [IV: 72]

A8 Rize: Çamlıhemşin, Kaler to Kavrun Y., *Picea orientalis* forest, 1600–1750 m, 25 vi 1980, *AG*. 2542.

Alchemilla compactilis Juz. [IV: 92]

A8 Rize: Çamlıhemşin, Kaler to Kavrun Y., *Picea orientalis* clearings, 1600–1750 m, 25 vi 1980, *AG*. 2527.

A. ziganadagensis B. Pawl. [IV: 95]

A8 Rize: Çamlıhemşin, Çat to Elevit, wet meadow, 1200–1500 m, 24 vi 1980, *AG*. 2442.

A. hirtipedicellata Juz. [IV: 96]

A8 Rize: Çayeli, Çataldere Köyü, around Çürükbel, wet meadow, 1370–1450 m, 5 vii 1979, *AG*. & *M. Doğan* (*AG*. 1990).

A. mollis (Buser) Rothm. [IV: 97]

A8 Rize: Çamlıhemşin, around Amlakit Y., *Picea orientalis* clearings and scrub, 1950 m, 26 vii 1976, *AG*. 1445.

A. stricta Rothm. [IV: 102]

A8 Rize: Çamlıhemşin, Amlakit Y., around Uzunçay, 1900 m, 8 ix 1979, *AG*. 2165.

Crataegus monogyna Jacq. subsp. *monogyna* [IV: 145]

A8 Rize: Çamlıhemşin, Çat to Elevit, roadsides, 1200–1800 m, 31 vii 1980, *AG*. 2819.

ONAGRACEAE

Ludwigia stolonifera (Guill. & Perr.) P. H. Raven [IV: 182]

C3 Antalya: Sarısu, in water, 5 m, 30 vii 1980, *H. Peşmen* 4916.

CRASSULACEAE

Sedum pallidum Bieb. var. *pallidum* [IV: 242]

A8 Rize: Çamlıhemşin, Ayder, around Kaler, 1600–1700 m, 27 vi 1981, *AG*. 3891.

UMBELLIFERAE/APIACEAE

Myrrhoides nodosa (L.) Cannon [IV: 310]

C9 Siirt: 28 km from Pervari to Şirvan, open *Quercus* scrub, limestone rocks, 1350–1400 m, 14 vi 1980, *AG*. & *MK*. (*AG*. 2417). [Det.: H. Peşmen]

Grammosciadium platycarpum Boiss. & Hausskn. [IV: 320]

C9 Hakkari: west of Kamişlı Köyü, steppe, 1750 m, 5 vi 1978, *AG*. 1776. [Det.: H. Peşmen]

Prangos corymbosa Boiss. [IV: 385]

C9 Siirt: 20 km from Pervari to Şirvan, open *Quercus* scrub, limestone rocks, 1500 m, 14 vi 1980, *AG*. & *MK*. (*AG*. 2412). [Det.: H. Peşmen]

Bupleurum creceum Fenzl. [IV: 397]

C9 Siirt: around Aydınlar (Tillo) Köyü, fields, 1200 m, 12 vi 1980, *AG*. & *MK*. (*AG*. 2292). [Det.: H. Peşmen]

B. lancifolium Hornem. [IV: 399]

C7 Urfa: Akçakale, Harran, Bellitaş (Telliçime) Köyü, steppe, 450–550 m, 17 iv 1980, *AG*. 2238. [Det.: H. Peşmen]

Ferula drudeana Korovin [IV: 442]

C6 Hatay: Hassa, Dedemli Köyü, Köremez Da., macchie, limestone rocks, 1200 m, 6 v 1978, *AG*. 1685. [Det.: H. Peşmen]

Malabaila secacul Banks & Sol. [IV: 487]

C9 Siirt: 28 km from Pervari to Şirvan, open *Quercus* scrub, limestone rocks, 1350–1400 m, 14 vi 1980, *AG. & MK.* (*AG.* 2419). [Det.: H. Peşmen]

Heracleum pastinacifolium C. Koch subsp. **incanum** (Boiss. & Huet) Davis [IV: 496]

B6 Malatya: Doğanşehir, Dedeyazi Köyü, Keşiş Da., 1800–2000 m, 28 vii 1971, *H. Peşmen* 2541. [Det.: H. Peşmen]

Trigonostadium viscidulum Boiss. & Hausskn. [IV: 501]

C9 Hakkâri: west of Kamişlı Köyü, steppe, 1750 m, 5 vi 1978, *AG.* 1772. [Det.: H. Peşmen]

Torilis tenella (Delile) Reichb. [IV: 523]

C9 Siirt: 28 km from Pervari to Şirvan, open *Quercus* Scrub, limestone rocks, 1350–1400 m, 14 vi 1980, *AG. & MK.* (*AG.* 2418). [Det.: H. Peşmen]

Lisaea heterocarpa (DC.) Boiss. [IV: 529]

B6 Malatya: Akçadağ road, 4 vi 1968, *A. Pamukcuoğlu*. [Det.: H. Peşmen]

L. strigosa (Banks & Sol.) Eig [IV: 529]

C9 Siirt: around Aydinlar (Tillo) Köyü, fields, 1200 m, 12 vi 1980, *AG. & MK.* (*AG.* 2290). [Det.: H. Peşmen]

VALERIANACEAE

Valerianella oxyrhyncha Fisch. & Mey. [IV: 564]

C7 Urfa: Akçakale, Altuntepe Köyü, along Syrian Frontier, 400 m, 17 iv 1980, *AG.* 2222.

DIPSACACEAE

Dipsacus pilosus L. [IV: 584]

A8 Rize: Fındıklı, Arslandere Köyü, around Gürcüdüzü, mixed forest 550–700 m, 27 vi 1980, *AG.* 2612.

Succisa pratensis Moench [IV: 601]

A8 Rize: Çamlıhemşin, Boğaziçi Köyü, above Kanlıboğaz, meadows, 1000 m, 9 ix 1978, *AG.* 1853. [Det.: H. Peşmen]

Scabiosa sosnowskyi Sulak. [IV: 608]

A8 Rize: Ardeşen to Fındıklı, sea shores, 3 m, 29 x 1980, *AG.* 3104. [This is the first localized specimen from Turkey]

COMPOSITAE/ASTERACEAE

Helichrysum orientale (L.) DC. [V: 84]

C3 Antalya: Finike to Demre, macchie, limestone rocks, 100 m, 2 v 1979, *H. Peşmen & AG.* (*H. Peşmen* 4568).

H. arenarium (L.) Moench. subsp. **aucheri** (Boiss.) Davis & Kupicha [V: 95]

A8 Rize: Çamlıhemşin, above Yukarı Kavrun Y., alpine steppe, 2400 m, 10 viii 1980, *AG. & B.S. Erol* (*AG.* 2948).

Conyza bonariensis (L.) Cronquist [V: 153]

A8 Rize: Pazar to Fındıklı, sandy sea shores, 3 m, 11 viii 1981, *AG.* 4130.

Doronicum macrophyllum [Fischer ex] Hornem [V: 140]

A8 Rize: Çamlıhemşin, Çat Köyü, meadows, 1200 m, 6 ix 1978, *AG.* 1827.

D. orientale Hoffm. [V: 143]

A8 Rize: Çamlıhemşin, below Çat Köyü, under *Alnus glutinosa*, 1150 m, 29 iv 1981, *AG.* 3512. [Basal leaves smaller]

Senecio doriiformis DC. subsp. **orientalis** (Fenzl) Matthews [V: 160]

B6 Malatya: Doğanşehir, Dedeyazi Köyü, Keşiş Da., alpine steppe, 1800–2200 m, 28 vii 1971, *H. Peşmen* 2496. [Det.: H. Peşmen]

S. integrifolius (L.) Clairv. subsp. **karsianus** Matthews [V: 164]

A8 Rize: Çamlıhemşin, Amlakit Y., above Kahve, *Rhododendron* scrub, 2000–2400 m, 24 vii 1974, *AG.* 1179. [Det.: H. Peşmen]

Anthemis pseudocotula Boiss. [V: 209]

A8 Rize: Ardeşen to Işikli, roadsides, 10 m, 28 vi 1980, *AG.* 2716.

Tripleurospermum caucasicum (Willd.) Hayek [V: 297]

A8 Rize: Çamlıhemşin, Yukarı Kavrun Y. to Mezevit, alpine steppe, 2150–2750 m, 9 viii 1980, AG. 2917.

T. decipiens (Fisch. & Mey.) Bornm. [V: 309]

A8 Rize: Ardeşen to Pazar, sandy sea shores, 3 m, 22 vi 1981, AG. 3802

Onopordum carduchorum Bornm. & Beauverd [V: 362]

B8 Siirt: below Şirvan, open *Quercus* scrub, dry slopes, 1000 m, 13 vi 1980, AG. & MK. (AG. 2362). [Det.: H. Peşmen]

Cirsium ellenbergii Bornm. [V: 386]

B6 Kahramanmaraş: Göksün, Çardak to Korkmaz Köyü, fields, 1250 m, 11 ix 1981, BY. 3324, [Det.: P. H. Davis]

Serratula cerinthifolia (Sm.) Boiss. [V: 453]

B8 Siirt: below Şirvan, open *Quercus* scrub, dry slopes, 1000 m, 13 vi 1980, AG. & MK. (AG. 2341)

S. oligocephala DC. [V: 459]

C9 Siirt: 20 km from Pervari to Şirvan, open *Quercus* scrub, limestone rocks, 1500 m, 14 vi 1980, AG. & MK. (AG. 2396).

Rhaponticum insigne (Boiss.) Wagenitz [V: 461]

A9 Kars: 35 km from Kars to Ardahan, meadows, 15 viii 1981, N. Demirkuş 1300.

Centaurea handelii Wagenitz [V: 527]

C9 Siirt: 20 km from Pervari to Şirvan, open *Quercus* scrub, limestone rocks, 1500 m, 14 vi 1980, AG. & MK. (AG. 2440).

C. fenzlii Reichardt [V: 532]

C9 Siirt: 12 km from Pervari to Şirvan, edge of corn-fields, 1600 m, 14 vi 1980, AG. & MK. (AG. 2433).

C. polypodiifolia Boiss. var. *szovitsiana* (Boiss.) Wagenitz [V: 539]

C9 Siirt: 16 km from Pervari to Şirvan, meadows, 1600 m, 14 vi 1980, AG. & MK. (AG. 2392).

C. urvillei DC. subsp. *nimrodii* (Boiss. & Hausskn.) Wagenitz [V: 552]

B9 Siirt: 10 km from Şirvan to Pervari, serpentine steppe, 950 m, 14 vi 1980, AG. & MK. (AG. 2439).

C. pulcherrima Willd. var. *freynii* (Sint.) Wagenitz [V: 568]

A8 Rize: Çamlıhemşin, Yukarı Kavrun Y., around Arçovit, alpine steppe, 2600 m, AG. & B.S. Erol (AG. 2950).

Echinops vaginatus Boiss. & Hausskn. [V: 617]

B6 Malatya: Doğanşehir, Eskiköy, Çobanderesi, *Juniperus excelsa* forest, 1600–1800 m, 25 vii 1971, H. Peşmen 2686, [Det.: H. Peşmen]

Uechitritzia armena Freyn & Sint. [V: 623]

A8 Erzurum: Tortum to Uzundere Y., 10 viii 1981, N. Demirkuş 1265.

Koelpinia linearis Pallas [V: 631]

C7 Urfa: Akçakale, Altuntepe Köyü, along Syrian Frontier, 400 m, 17 iv 1980, AG. 2219.

Hypochoeris radicata L. [V: 669]

A8 Rize: Ardeşen, Firtina Köprüsü to Bakoz, mixed forest, 10–200 m, 28 vi 1980, AG. 2679.

Leontodon asperimus (Willd.) J. Ball [V: 674]

C9 Siirt: above Pervari, steppe, 1600–1700 m, 14 vi 1980, AG. & MK. (AG. 2371).

Picris kotschyi Boiss. [V: 683]

B8 Siirt: below Şirvan, open *Quercus* scrub, dry slopes, 1000 m, 13 vi 1980, AG. & MK. (AG. 2347).

Urospermum picroides (L.) F. W. Schmidt [V: 685]

B8 Siirt: below Şirvan, open *Quercus* scrub, dry slopes, 1000 m, 13 vi 1980, AG. & MK. (AG. 2354).

Hedynois cretica (L.) Dum.-Cours. [V: 686]

A8 Rize: Çamlıhemşin, Şenyuva to Ülkü, wet meadows, 450 m, 28 iv 1981, AG. 3500.

Sonchus tenerrimus L. [V: 692]

A8 Rize: Ardeşen to Işikli, roadsides, 5 m, 28 vi 1980, AG. 2720.

Hieracium cf. *rigens* Jordan [V: 745]

A8 Rize: Çamlıhemşin, Yukarı Kavrun Y. to Mezevit, *Rhododendron caucasicum* scrub, 2400 m, 9 viii 1980, AG. & B.S. Erol (AG. 2923). [Involucrum smaller than usual, up to 8 mm]

Taraxacum aff. *rechingeri* van Soest [V: 803]

A8 Rize: Çamlıhemşin, around Ayder Ilicasi, meadows, 1100–1400 m, 28 iii 1981, AG. 3258.

[It differs from the description in its strongly reflexed outer phyllaries and absence of pollen grains]

T. cf. scaturiginosum G. Hagl. [V: 804]

A8 Rize: Çamlıhemşin, around Aşağı Vice Mah, 250–800 m, 24 ii 1981, *AG. & B.S. Erol* (*AG.* 3143); Kaler to Kavrın Y., *Picea orientalis* clearings 1600–1750 m, 25 vi 1980, *AG.* 2539. [It has longer involucre (18 mm) and achene beaks (10.5 mm) than those of typical ones]; Çat to Elevit, wet meadows, 1200–1500 m, 24 vi 1980, *AG.* 2456.

T. cf. macrolepium Schischkin [V: 805]

A8 Rize: Çamlıhemşin, Şenyuva to Ülkü, wet meadows, c. 450 m, 28 vi 1981, *AG.* 3494. [It has shorter achenes (up to 3.5 mm), and achene beaks (up to 9 mm), and pappus (up to 6 mm)]; around Yukarı Amlakit Y., alpine meadows, 2100–2350 mm, 25 vi 1981, *AG.* 3858. [Margins of phyllaries wider (0.8 mm) than in the key]

T. cf. revertens G. Hagl. [V: 805]

A8 Rize: Ardeşen, around Eski Armutluk Köyü, c. 500 m, 25 iii 1981, *AG.* 3216. [Margins of phyllaries wider (1 mm) than in the key]

T. aff. androssovii Schischkin [V: 805]

A8 Rize: Çamlıhemşin, mixed forest and meadow, 250–400 m, 27 iv 1981, *AG.* 3481. [It differs from typical specimens in its less lobate leaves which have larger terminal lobes (3–5 cm in length), and shorter achenes (3.5 mm including 0.8 mm cone), and achene beaks (7 mm)]

T. cf. fedtschenkoi Hand.-Mazz. [V: 806]

A8 Rize: Çamlıhemşin, Meydan to Çat, granite rocks, 1050–1200 m, 20 v 1981, *AG.* 3520. [It differs from the description in its lobate outer leaves]

Crepis alpestris (Jacq.) Tausch. [V: 818]

A8 Rize: Çamlıhemşin, Yukarı Kuvrun Y., Pornag to Arçovit, alpine steppe, 2400–3000 m, 10 viii 1980, *AG. & B.S. Erol* (*AG.* 2976). [Det.: J. Lamond]

ERICACEAE

Arbutus unedo L. [VI: 99]

A8 Rize: Ardeşen, Firtına Köprüsü to Bakoz, mixed scrub, 70 m, 28 vi 1980, *AG.* 2650.

LENTIBULARIACEAE

Pinguicula crystallina Sm. [VI: 108]

C3 Isparta: Eğirdir, Pazarköy, Üçyıldız Çeşmesi, 1100 m, *H. Peşmen & AG.* 1922 & 2068.

CONVOLVULACEAE

Convolvulus doryenium L. subsp. *oxysepalus* (Boiss.) Rech. fil. [VI: 205]

B6 Malatya: on road to Akçadağ, 4 vi 1968, *A. Pamukçuoğlu*; on road to Adıyaman, 6 vi 1968, *A. Pamukçuoğlu*.

C. oleifolius Desr. [VI: 208]

C3 Antalya: Finike to Demre, macchie, limestone rocks, 100 m, 2 v 1979, *H. Peşmen & AG.* (*H. Peşmen* 4569).

C. betonicifolius Miller subsp. *peduncularis* (Boiss.) Davis [VI: 217]

C10 Hakkâri: Yüksekova, Yeşiltaş Köyü, metamorphic slopes, 1400 m, 19 vi 1975, *AG.* 1359. [Det.: S. Erik]

BORAGINACEAE

Cynoglossum germanicum Jacq. [VI: 309]

A8 Rize: Çamlıhemşin, Çat to Elevit, wet meadows, 1200–1800 m, 31 vii 1980, *AG.* 2837.

Onosma trapezuntum [Boiss. & Huet ex] Hand.-Mazz. [VI: 373]

A8 Rize: Çamlıhemşin, Hisarcık to Ortayayla, alpine meadows, 1900–2000 m, 6 viii 1981, *AG.* 3986.

Symphytum orientale L. [VI: 383]

C4 Konya (İçel): near Mut, 15 vi 1970, *A. Pamukçuoğlu*.

S. kurdicum Boiss. & Hausskn. [VI: 383]

C9 Siirt: 20 km from Pervari to Şirvan, open *Quercus* scrub, limestone rocks, 1500 m, 14 vi 1980, *AG. & MK.* (*AG.* 2411).

Nonea melanocarpa Boiss. [VI: 408]

A8 Rize: Çamlıhemşin, Hisarcık to Ortayayla, alpine meadows, 2000 m, 6 viii 1981, AG. 4011.

SCROPHULARIACEAE

Verbascum blattaria L. [VI: 491]

A8 Rize: Gündoğdu, roadsides, 15 m, 4 vii 1979, AG. & M. Doğan (AG. 1950).

Veronica ceratocarpa C. A. Meyer [VI: 721]

A8 Rize: Çamlıhemşin, Kaler to Kavrın Y., wet meadows, 1600–1750 m, 25 vi 1980, AG. 2520.

V. chamaedrys L. [VI: 732]

A8 Rize: Findikli, Arslandere Köyü, around Gürcüdüzü, mixed forest, 550–700 m, 27 vi 1980, AG. 2615.

Euphrasia sevanensis Juz. [VI: 761]

A8 Rize: Çamlıhemşin, Hisarcık Köyü, Ortasirt to Lamli, alpine steppe, 2200–2400 m, 20 viii 1981, AG. 4211.

Parentucellia latifolia (L.) Caruel subsp. **flaviflora** (Boiss.) Hand.-Mazz. [VI: 767]

B9 Bitlis: Tatvan, Sorgun, igneous slopes, 1650–1700 m, 28 v 1972, H. Peşmen 2769, [Det.: H. Peşmen]

LABIATAE/LAMIACEAE

Phlomis lunariifolia Sm. [VII: 112]

C5 Adana: Karaisali, Karsanti, 24 vi 1970, A. Pamukçuoğlu, [Det.: H. Peşmen]

Salvia verbenaca L. [VII: 458]

A8 Rize: Gündoğdu, roadsides, c. 10 m, 4 vii 1979, AG. & M. Doğan (AG. 1927), [Det.: I. C. Hedge]

Elsholtzia ciliata (Thunb.) Hyl. [VII: 462]

A8 Rize: Çamlıhemşin, Yolkiyi to Şenyuva, 350 m, 22 x 1980, AG. 3064, [Det.: I. C. Hedge]; Ardeşen, İşikli, around Yaylacılar Fidanlığı, 750 m, 27 x 1980, AG. 3084, [Det. I. C. Hedge]

EUPHORBIACEAE

Euphorbia arvalis Boiss. & Heldr. [VII: 604]

C5 Adana: Pozanti to Belededik, railway sides, 800 m, 14 v 1975, AG. 1255.

E. craspedia Boiss. [VII: 611]

C9 Siirt: Aydinlar (Tillo) Köyü, around Ibrahim Hakki Kalesi, steppe, 1350 m, 12 vi 1980, AG. & MK. (AG. 2329).